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10/702,045	11/06/2003	Young-soo Kim	249/422	7399

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EXAMINER
BELANI, KISHIN G

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/702,045	KIM ET AL.
	Examiner	**Art Unit**	
	Kishin G. Belani	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 May 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This action is in response to Applicant's amendment filed on May 07, 2007.

Claims 17 and 18 were amended by the applicant to overcome double-patenting

objection. **Claims 19 and 20** are newly added claims. **Claims 1-20** are still pending in

the present application. **This Action is made FINAL.**

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-10, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated

by **Jiang (U.S. Patent Publication # 7,058,076 B1).**

Consider **claim 1**, Jiang clearly shows and discloses a network architecture for a

mobile communication system (Abstract; Fig. 1; column 2, lines 3-11, that disclose a

wireless network architecture for a mobile communication system), the network

architecture comprising:

a plurality of Internet protocol (IP) routers which serve as gateways for transmitting data

from one mobile terminal, which is a sending party, to another mobile terminal, which is

a receiving party, over a public Internet network (Fig. 1, blocks 15, 20 acting as IP

routers, sending mobile station 90, receiving mobile station 95, and the Internet; column

2, lines 35-40 that describe a "Wireless INfrastructure Network" WINN 100 as

comprising a plurality of IP routers 15 and 20, transmitting (91) data from mobile station

90 to a second mobile station 95 that receives (97) the data via the public Internet

network);

a home agent (HA) located on the public Internet network, the HA carrying out initial

registration of mobile terminals, IP routing, and management of mobility of the mobile

terminals (Fig. 1, block 25 marked MM server; column 3, lines 57-60, that disclose

server 25 as a mobility management (MM) server (interpreted to be the home agent

(HA) by the examiner), which is used to manage micro mobility of mobile terminals,

inherently understood to include initial registration of the mobile terminal);

an authorization authentication accounting (AAA) server located on the public Internet

network, separate from the HA, the AAA server carrying out authorization,

authentication and accounting for the mobile terminals such that the mobile terminals

access the public Internet network and storing AAA information of each of the mobile

terminals (Fig. 1, block 5; column 3, lines 48-50, that disclose the AAA server, which

carries out the authorization, authentication, and accounting functions);

and a plurality of radio access points (RAPs) which are respectively connected to the

public Internet network via the IP routers, the RAPs connecting the mobile terminals to

the public Internet network (Fig. 1, blocks 21-24; column 2, lines 35-40, that disclose a

plurality of base stations 21-24, connecting mobile terminals 80, 90 and 95 to the

Internet via IP routers 15 and 20).

Consider **claim 4**, and **as applied to claim 1 above**, Jiang clearly shows and

discloses that at least one of the RAP, the AAA server and the HA encapsulates control

information data to be transmitted (Fig. 2, Base Station block 200 that shows wireless

air interface for communication with mobile stations, and IP packet network interface;

Fig. 3, Processor block 210 that shows control information being encapsulated; column

2, lines 9-11, which disclose that base stations (RAPs) comprise a router and convert

(encapsulate) wireless air interface signaling to a common IP signaling format; column

3, lines 36-38, which disclose that the routing is separated from signaling, signaling

being interpreted by the examiner to be the control information).

Consider **claim 5**, and **as applied to claim 4 above**, Jiang discloses that the

RAP assigns a higher priority to encapsulated control information data than to other

types of data (Fig. 7, protocol LIPE (Lightweight Internet Protocol Encapsulation);

column 6, lines 45-56, that describe Quality of Service (QoS) support for signaling data

using Multi Protocol Label Switching (MPLS), differentiated services (DiffServ), or

Resource Reservation Protocol (RSVP) to assign priority to the encapsulated control

information).

Consider **claim 6**, and **as applied to claim 1 above**, Jiang clearly shows and

discloses that RAP directly transmits user data to the public Internet network via the IP

routers (Fig. 1, that shows base stations 21-24 wired to IP routers 15 and 20 and

connected to the Internet by gateway; column 3, lines 36-42, which disclose that routers

15 and 20 directly transmit IP traffic interpreted to be user data to the public Internet

network).

Consider **claim 7**, and **as applied to claim 1 above**, Jiang discloses that the

RAP transmits location information of a mobile terminal to the HA (column 5, lines 4-9,

which disclose that the communications arriving at the base station from wireless

endpoints (interpreted by examiner to include location information of the mobile

terminals) are routed to any other node in WINN 100 (one of the node being Home

Agent HA).

Consider **claim 8**, and **as applied to claim 1 above**, Jiang discloses that the HA

further performs route optimization (column 3, lines 15-24, which disclose that the traffic

between two mobile users is routed on the shortest path of WINN 100 (that contains

Home Agent HA) just between the base stations, and access charges by the local

telephone companies being avoided, thereby performing route optimization).

Consider **claim 9**, and **as applied to claim 1 above**, Jiang clearly shows and

discloses that RAP further performs general radio link functions (Fig. 3, that shows radio

link function in the base station interpreted to be RAP; column 4, lines 48-52, that

describe the protocol stacks in the design of base station 200, including radio link

functions handling signaling for the wireless air interface).

Consider **claim 10**, Jiang clearly shows and discloses a communication method

in a network architecture for a mobile communication system, the network architecture

including a plurality of Internet protocol (IP) routers, a home agent, an authorization

authentication accounting (AAA) server and a plurality of radio access points (RAPs),

(Fig. 1; column 2, lines 3-5, that disclose a communication method in a wireless network

architecture for a mobile communication system that includes IP routers 15 and 20, MM

server 25 (interpreted to be Home Agent HA), AAA server 5, and base stations 21-24

(interpreted to be RAPs)), the communication method comprising:

transmitting control information data using a first communication manner (Fig. 1, blocks

15, 20 functioning as IP routers, base stations 21-24 functioning as RAPs, MM server

25 functioning as home agent, and AAA server that together make up a first

communication manner processing signaling (control) information; column 3, lines 36-60

that describe the structural details of the first communication manner as shown in Fig. 1

and listed above); and

transmitting user data using a second communication manner, wherein the control

information data and user data are separately processed and transmitted (Fig. 1, blocks

21-24 base stations (RAPs), IP routers 15 and 20, gateway 30, and the Internet that

together make up the second communication manner used to transmit user data directly

to the Internet, thereby separating processing control information data from the user

data, as described in column 3, lines 36-42).

Consider **claim 15**, and **as applied to claim 10 above**, Jiang clearly shows and

discloses a method showing how the second communication manner includes directly

transmitting the user data of each mobile terminal to the public Internet network (Fig. 1,

blocks 21-24 base stations (RAPs), IP routers 15 and 20, gateway 30, and the Internet

that together make up the second communication manner used to transmit user data

directly to the Internet, as described in column 3, lines 36-41).

Consider **claim 19**, and **as applied to claim 10 above**, Jiang clearly shows and

discloses a method wherein the home agent, the authorization authentication

accounting (AAA) server are in a public Internet network (Fig. 1; column 2, lines 3-5,

that disclose a communication method in a wireless network architecture for a mobile

communication system that includes IP routers 15 and 20, MM server 25 (interpreted to

be Home Agent HA), AAA server 5, and base stations 21-24 (interpreted to be RAPs)),

and the transmitting of the control information data and user data are to the public

Internet network (Fig. 1, IP routers 15 and 20, and gateway 30 as extension of the

Internet are used to transmit signaling (control) data and user data directly to the

Internet, as described in column 3, lines 36-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at the time the invention was
> made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall
> not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
      obviousness
      or nonobviousness.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 2, 3, and 11-14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Jiang (U.S. Patent Publication # 7,058,076 B1))** in view of **Peirce,**

Jr. et al. (U.S. Patent Publication # 6,560,217 B1)

Consider **claim 2**, and **as applied to claim 1 above**, Jiang shows and discloses

the claimed invention except that the home agent, the AAA server, and the plurality of

RAPs are constructed to support a safe communication path.

In the same field of endeavor, Peirce, Jr. et al. clearly show and disclose (Fig. 2,

that shows a multiplicity of IWFs 13A, 13B, 13C and 13D, interpreted to be the RAPs,

home agent 26 and AAA server; Fig. 3 that shows home agents 1, 2, ..., N using VPN

tunnels TUN 1, 2, ..., N; column 4, lines 30-35, which disclose that each home agent is

assigned to one virtual private network in order to provide a secure communication

path).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to provide a secure communication path, as taught by

Peirce Jr. et al. in the method of Jiang, so that the security of the control information

circulating between RAPs, HA, and AAA on the Internet can be maintained.

Consider **claim 3**, and **as applied to claim 2 above**, Jiang shows and discloses

the claimed invention except the safe communication path includes a virtual private

network (VPN).

In the same field of endeavor, Peirce, Jr. et al. clearly show and disclose (Fig. 2, that shows a multiplicity of IWFs 13A, 13B, 13C and 13D, interpreted to be the RAPs, home agent 26 and AAA server; Fig. 3 that shows home agents 1, 2, ..., N using Virtual Private Network (VPN) tunnels TUN 1, 2, ..., N; column 4, lines 30-35, that disclose that each home agent is assigned to one virtual private network in order to provide a secure communication path).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a secure communication path in the form of Virtual Private Network tunnels for example, as taught by Peirce Jr. et al. in the method of Jiang, so that the security of the control information circulating between RAPs, HA, and AAA on the Internet can be maintained.

Consider **claim 11**, and **as applied to claim 10 above**, Jiang shows and discloses the claimed invention except that the first communication manner comprises securing a safe communication path by performing communication between the plurality of RAPs, between the RAPs and the home agent, and between the RAPs and the AAA server.

In the same field of endeavor, Peirce, Jr. et al. clearly show and disclose a method by providing a safe communication path by performing communication between the plurality of RAPs, between the RAPs and the home agent, and between the RAPs and the AAA server (Fig. 2, that shows a multiplicity of IWFs 13A, 13B, 13C and 13D, interpreted to be the RAPs, home agent 26 and AAA server; Fig. 3 that shows home

agents 1, 2, ... , N using VPN tunnels TUN 1, 2, ..., N; column 4, lines 30-35, that disclose that each home agent is assigned to one virtual private network in order to provide a secure communication path).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a secure communication path, as taught by Peirce Jr. et al. in the method of Jiang, so that the security of the control information circulating between RAPs, HA, and AAA on the Internet can be maintained.

Consider **claim 12**, and **as applied to claim 11 above**, Jiang shows and discloses the claimed invention except securing a safe communication path includes using virtual private network (VPN) services.

In the same field of endeavor, Peirce, Jr. et al. clearly show and disclose a method by providing a safe communication path includes using virtual private network (VPN) services (Fig. 2, that shows a multiplicity of IWFs 13A, 13B, 13C and 13D, interpreted to be the RAPs, home agent 26 and AAA server; Fig. 3 that shows home agents 1, 2, ..., N using Virtual Private Network (VPN) tunnels TUN 1, 2, ..., N; column 4, lines 30-35, that disclose that each home agent is assigned to one virtual private network in order to provide a secure communication path).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide secure communication path in the form of Virtual Private Network tunnels , as taught by Peirce Jr. et al. in the method of Jiang, so

that the security of the control information circulating between RAPs, HA, and AAA on

the Internet can be maintained.

Consider **claim 13**, and **as applied to claim 12 above**, Jiang as modified by

Peirce, Jr. et al. also shows and teaches by the method of his invention that the first

communication manner comprises encapsulating the control information data (Fig. 2,

Base Station block 200 that shows wireless air interface for communication with mobile

stations, and IP packet network interface; Fig. 3, Processor block 210 that shows

control information being encapsulated; column 2, lines 9-11, which disclose that base

stations (RAPs) comprise a router and convert (encapsulate) wireless air interface

signaling to a common IP signaling format; column 3, lines 36-38, which disclose that

the routing is separated from signaling, signaling being interpreted by the examiner to

be the control information).

Consider **claim 14**, and **as applied to claim 13 above**, Jiang as modified by

Peirce, Jr. et al. also shows and teaches by the method of his invention how to set a

higher priority for the encapsulated control information data than to user data. (Fig. 7,

protocol LIPE (Lightweight Internet Protocol Encapsulation); column 6, lines 45-56, that

describe Quality of Service (QoS) support for signaling data using Multi Protocol Label

Switching (MPLS), differentiated services (DiffServ), or Resource Reservation Protocol

(RSVP) to assign priority to the encapsulated control information).

Claims 16-18, and 20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Jiang (U.S. Patent Publication # 7,058,076 B1))** in view of **Juitt et**

al. (U.S. Patent Publication # 7,042,988 B2)

Consider **claim 16**, and **as applied to claim 10 above**, Jiang shows and

discloses the claimed invention except the second communication manner is less

secure than the first communication manner.

In the same field of endeavor, Juitt et al. disclose that the second communication

manner is less secure than the first communication manner (Column 2, lines 21-23,

which disclose a method for using Virtual Private Networks (VPNs) to provide security

for wireless networks. Since the first communication manner uses VPN for transmitting

control data, it is more secure than the second communication manner which does not

use VPN or any other security protocol).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to provide more secure communication manner using

VPN or any other secure protocol for transmitting control information than for

transferring user data, as taught by Juitt et al. in the method of Jiang, so that the

security of the control information containing vital user information circulating between

RAPs, HA, and AAA on the Internet can be maintained.

Consider **claim 17**, and **as applied to claim 16 above**, Jiang as modified by

Juitt et al., also shows and teaches by the method of his invention that the first

communication manner further comprises encapsulating the control information data

(Fig. 2, Base Station block 200 that shows wireless air interface for communication with

mobile stations, and IP packet network interface; Fig. 3, Processor block 210 that shows

control information being encapsulated; column 2, lines 9-11, which disclose that base

stations (RAPs) comprise a router and convert (encapsulate) wireless air interface

signaling to a common IP signaling format; column 3, lines 36-38, which disclose that

the routing is separated from signaling, signaling being interpreted by the examiner to

be the control information).

Consider **claim 18**, and **as applied to claim 17 above**, Jiang as modified by

Juitt et al., also shows and teaches by the method of his invention how to set a higher

priority for the encapsulated control information data than to user data. (Fig. 7, protocol

LIPE (Lightweight Internet Protocol Encapsulation); column 6, lines 45-56, that describe

Quality of Service (QoS) support for signaling data using Multi Protocol Label Switching

(MPLS), differentiated services (DiffServ), or Resource Reservation Protocol (RSVP) to

assign priority to the encapsulated control information).

Consider **claim 20**, and **as applied to claim 19 above**, Jiang shows and

discloses the claimed invention except the second communication manner is less

secure than the first communication manner.

In the same field of endeavor, Juitt et al. disclose that the second communication

manner is less secure than the first communication manner (Column 2, lines 21-23,

which disclose a method for using Virtual Private Networks (VPNs) to provide security

for wireless networks. Since the first communication manner uses VPN for transmitting

control data, it is more secure than the second communication manner which does not

use VPN or any other security protocol).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to provide more secure communication manner using

VPN or any other secure protocol for transmitting control information than for

transferring user data, as taught by Juitt et al. in the method of Jiang, so that the

security of the control information containing vital user information circulating between

RAPs, HA, and AAA on the Internet can be maintained.

Response to Arguments

Applicant's arguments filed 05/07/2007 have been fully considered but they are

not persuasive.

The examiner respectfully disagrees with applicant's arguments as the applied

reference(s) provide more than adequate support and clarification. The examiner's

rejection of 01/19/2007 is maintained.

In reference to **claim 1**, the examiner disagrees with the applicant's argument

that both the mobility management (MM) server 25 and the AAA server 5 in the cited

Jiang reference are not on the public Internet network, but on a private, hierarchical

network. Jiang reference discloses a wireless service provider to provide low-cost

wireless service (column 6, lines 57-63). A service-providing network is a public

network, not a private one. Also, the network uses IP packets, thereby using Internet

Protocol, and extending the reach of the Internet to the entire network, including routers

15 and 20, AAA server 5, MM server 25, and various other servers and base stations

shown in Fig. 1 of the Jiang reference.

Claims 4-9 also remain rejected based on their dependency on claim 1 and the

Jiang reference's teachings cited above.

In reference to **claim 10**, the examiner disagrees with the applicant's argument

that Jiang reference does not encapsulate the control information. Claim 10 makes no

mention of encapsulation of the control information. The applicant is trying to read

specifications into the claim language, whereas the examiner has interpreted the claim

on its own merit. Also, Jiang reference does encapsulate control information, in the

sense that "Wireless Air Interface" is being encapsulated (i.e. converted by enclosing it

in the IP packet envelope, as shown in Fig. 2 of Jiang reference) into IP packets.

Claims 15 and 19 are rejected based on their dependency on claim 10 and the

Jiang reference's teachings cited above.

Claims 2, 3, and 11-14 remain rejected because Jiang reference, as modified by

Peirce Jr. et al. reference, adequately teaches all the elements of these claims.

Claims 16-18, and 20 are rejected because Jiang reference, as modified by Juitt

et al. reference, also teaches all the elements of these claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US Patent Application publication: 2004/0003046 A1, inventor: Grabelsky et al., filed: 12/12/2001, that shows (Fig. 1) Authentication Server 110 on the Internet.

US Patent application publication 2004/0032844 A1, inventor: Lewis et al., filed: 08/16/2002, that shows (Fig. 2) AAA Server 240 on the Internet.

Previously cited US Patent application publication 2003/0208601 A1, inventor: Campbell et al., filed: 10/25/2001, that shows (Fig. 1) Home Agent 114 on the Internet.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

> Commissioner for Patents
> P.O. Box 1450
> Alexandria, VA 22313-1450

Art Unit: 2143

Hand-delivered responses should be brought to

> Customer Service Window
> Randolph Building
> 401 Dulany Street
> Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kishin G. Belani whose telephone number is (571) 270-1768. The Examiner can normally be reached on Monday-Thursday from 6:30 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist/customer service whose telephone

number is (571) 272-0800.

Kishin G. Belani
K.G.B./kgb

June 3, 2007

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100